

1 November, 2007

Transport Canada  
Aircraft Certification Division  
11<sup>th</sup> Floor, Canada Place  
9700 Jasper Avenue  
Edmonton, Alberta  
T5J 4E6

Attn: Jack Staal

Your File # : SH00-48

Our File # : Various

Re: Cargo Basket Approval Revisions

Jack,

Please find attached the following documents related to this project:

Supplemental Type Certificate (draft)

✓SH00-48 Issue 6

(High Quick Release Basket)

Document Control List

✓DCL766-1 Revision 0

Document Control List

✓DCL766-2 Revision 0

AE 100 Form

✓AE766-1 Revision 0

AE 100 Form

✓AE766-2 Revision 0

Compliance Program

✓CP766 Revision 0

Modification Approval Application Form

✓MOD766 Revision 0

Engineering Report

✓ER766.01 Revision 0

Test Plan

✓TP766.02 Revision 0

Instructions for Continued Airworthiness

✓ICA766.90 Revision 0

MSI 53 Review

✓

Flight Manual Supplement (407)

✓FMS766.91 Revision 0

Flight Manual Supplement (206L)

✓FMS766.92 Revision 0

Cargo Basket Installation

✓76601 Revision 0

Cargo Basket Assembly

✓76610 Revision 0

Cargo Basket Body

✓76611 Revision 0

Basket Components - End Hoop Assembly

✓76621 Revision 0

Basket Comp. - Attach Hoop Assembly

✓76622 Revision 0

Basket Components - Hoop

✓76623 Revision 0

Basket Components - Placard

✓76625 Revision 0

Support Beams

✓76630 Revision 0

Handle Assembly

✓36255 Revision 1

Handle Bar Assembly

✓36261 Revision 3

Handle Bracket Assembly

✓36262 Revision 1

Handle Lever

✓36271 Revision 1

Basket Bracket

✓36272 Revision 1

Lid Bracket

✓36273 Revision 1

Bushing

✓36274 Revision 1

Bushing

✓36275 Revision 2



## (407 Attachment Provisions)

Document Control List  
AE100 Form  
Block Fabrication

✓ DCL700 Revision 1  
✓ AE700 Revision 1  
✓ 60620 Revision 1

## (Low Fixed Basket)

Document Control List  
Document Control List  
AE100 Form  
Cargo Basket Installation (206L)  
Support Beams (Pocketed Aluminum)  
Support Beams (Steel)  
Engineering Report - Pocketed Beams  
Instructions for Continued Airworthiness  
Flight Manual Supplement  
Document Control List  
AE100 Form  
Cargo Basket Installation (407)  
Flight Manual Supplement

✓ DCL492 Revision 6  
✓ DCL492-1 Revision 1  
✓ AE492 Revision 2  
✓ 49201 Revision 3  
✓ 49221 Revision 3  
✓ 49222 Revision 2  
✓ ER492.04 Revision 1  
✓ ICA492.90 Revision 1  
✓ FMS492.01 Revision 2  
✓ DCL606 Revision 3  
✓ AE606 Revision 2  
60601 Revision 2  
✓ FMS606.01 Revision 2

## (Quick Release Basket Installation)

Document Control List  
AE100 Form  
Cargo Basket Installation (407)  
Flight Manual Supplement  
Document Control List  
AE100 Form  
Cargo Basket Installation (206L)  
Flight Manual Supplement

✓ DCL701 Revision 1  
✓ AE701 Revision 1  
✓ 70101 Revision 2  
✓ FMS701.90 Revision 1  
✓ DCL702 Revision 1  
✓ AE702 Revision 1  
✓ 70201 Revision 2  
✓ FMS702.90 Revision 1

## (Quick Release Basket Fabrication)

Document Control List  
AE100 Form  
Cargo Basket Assembly  
Basket Body Assembly  
Basket Components - End Hoop  
Basket Components - Aft Hoop  
Instructions for Continued Airworthiness  
Document Control List  
AE100 Form  
Forward Beam Fabrication  
Aft Beam Fabrication  
Engineering Report

✓ DCL698-1 Revision 1  
✓ AE698-1 Revision 1  
✓ 69810 Revision 2  
✓ 69811 Revision 2  
✓ 69821 Revision 1  
✓ 69822 Revision 0  
✓ ICA698.90 Revision 1  
✓ DCL698-2 Revision 2  
✓ AE698-2 Revision 1  
✓ 69830 Revision 2  
✓ 69831 Revision 2  
✓ ER698.04 Revision 0

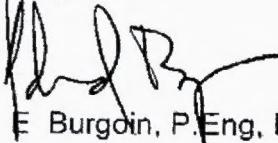


**AERO DESIGN LTD.**  
2013 - 39 Avenue N.E., Calgary, Alberta, T2E 6R7

Tel 403-250-8027  
Fax 403-250-8333  
[info@aerodesign.ca](mailto:info@aerodesign.ca)

Please note the request for a revision to the FAA STC after the Canadian approval is issued.

Regards,



E. Burgoin, P.Eng, DAR 290M

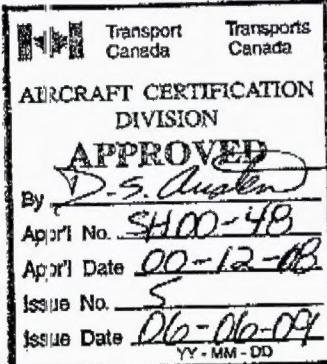
Encl.



## FORM AE-100

DEPARTMENT OF TRANSPORT STATEMENT OF COMPLIANCE OF AIRCRAFT OR AIRCRAFT COMPONENTS WITH THE AIRWORTHINESS REQUIREMENTS		AE-100 No.: AE700 Initial Issue Date: 25 May, 2006  Revision: 1 Revision Date: 01 November, 2007  Approval No.: SH00-48  Delegation No.: 290M Delegate Name: E. Burgoine  Classification of Designee: Employer: AERO Design Ltd.	
LIST OF APPROVED REPORTS AND DATA			
Document Number	Document Title		Compliance Status
DCL700 60620	Revision 1 Revision 1	Document Control List and all documents referred to therein Block Fabrication	
DATA APPROVED BY TRANSPORT CANADA			
CERTIFICATION			
UNDER THE AUTHORITY VESTED IN ME BY THE DEPARTMENT OF TRANSPORT, I HEREBY CERTIFY THAT THE DATA LISTED ABOVE AND ON THE ATTACHED SHEETS NUMBERED Nil HAVE BEEN EXAMINED IN ACCORDANCE WITH ESTABLISHED PROCEDURES AND FOUND TO COMPLY, TO THE BEST OF MY KNOWLEDGE AND BELIEF WITH THE PERTINENT COMPLIANCE REQUIREMENTS.			
I THEREFORE <input type="checkbox"/> RECOMMEND FOR APPROVAL OF THESE DATA <input checked="" type="checkbox"/> APPROVE THESE DATA			
 E. Burgoine, DAR 290M			

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
60602 FMS700.91 ICA700.90	External Attachment Provisions Installation Flight Manual Supplement Instructions for Continued Airworthiness	0 0 0
<b>FABRICATION DOCUMENTS</b>		
60620 60621 60622 60624	Block Fabrication Forward Fitting Barrel Nut Fabrication Barrel Nut Fabrication	0 1 0 0
<b>ENGINEERING DOCUMENTS</b>		
ER606.01 ER606.02 ER493.01	Engineering Report Engineering Report Engineering Report	0 0 0
<b>APPROVAL:</b>		
 <p>Transport Canada AIRCRAFT CERTIFICATION DIVISION <b>APPROVED</b> By <i>D-S. Austin</i> Appl No. <i>SH00-48</i> Appl Date <i>00-12-08</i> Issue No. <i>S</i> Issue Date <i>06-06-09</i> YY-MM-DD</p>	ORIGINAL DATE: 10 May, 2008 REVISION DATE:  SHEET 1 OF 1	<b>AERO DESIGN LTD.</b> 2013 - 39 <sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7 Ph. (403) 250-8027 Fax. (403) 250-8333  <b>External Attachment Provisions Installation</b>  Rev. <b>DCL700</b> <b>0</b>

AERO DESIGN LTD.

FMS700.91

## BELL 407

### ROTORCRAFT FLIGHT MANUAL SUPPLEMENT for the INSTALLATION of EXTERNAL ATTACHMENT PROVISIONS

Supplemental Type Certificate No. SH00-48

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory.

Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersedes or supplement that contained in the basic Approved Flight Manual for the Bell 407 when fitted with External Attachment Provisions. For limitations, procedures and performance not listed in this Flight Manual Supplement, refer to the Approved Flight Manual and other approved Flight Manual Supplements.



Revision 0  
4 May, 2006

JUN 09 2006  
TRANSPORT CANADA APPROVED

AERO DESIGN LTD.

FMS700.91

## I LIMITATIONS

1. Attachment of any equipment to the External Attachment Provisions requires Transport Canada Approval.

## II NORMAL PROCEDURES

1. No change from basic Approved Flight Manual.

## III EMERGENCY PROCEDURES

1. No change from basic Approved Flight Manual.

## IV PERFORMANCE

1. No change from basic Approved Flight Manual.

Revision 0  
4 May, 2006

JUN 09 2006  
TRANSPORT CANADA APPROVED

## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 700.90

---

### EXTERNAL ATTACHMENT PROVISIONS

#### Bell 407

#### Preface

These Instructions for Continued Airworthiness shall be included in the Bell 407 Maintenance Manual when the External Attachment Provisions are installed in accordance with AERO Design Ltd. Document Control List DCL700, Revision 0, or later approved revision.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 0  
Date: 20 April, 2006

---

**AERO Design Ltd.**  
Engineering Consultants

2013 – 39<sup>th</sup> Avenue N.E., Calgary, Alberta T2E 6R7  
Phone: (403) 250-8027  
Fax: (403) 250-8333  
E-Mail: [aerodesign@telusplanet.net](mailto:aerodesign@telusplanet.net)

---

Notice: This report contains information and data which is proprietary to **AERO** Design Ltd. This report, or any portion thereof, may not be reproduced, copied, duplicated or used without the written consent of **AERO** Design Ltd.

## **RECORD OF REVISIONS**

## **LIST OF EFFECTIVE PAGES**

## List of Revisions

Revision 0 (Original Issue) 20 April, 2006

## List of Effective Pages

<u>Description</u>	<u>Pages</u>	<u>Revision No.</u>
Cover	1	0
Revision Record/List of Effective Pages	2	0
Table of Contents	3	0
00-00-00	4-5	0
04-00-00	6	0
05-00-00	7	0
11-00-00	8	0
32-00-00	9-10	0

**TABLE OF CONTENTS**

RECORD OF REVISIONS	2
LIST OF EFFECTIVE PAGES	2
CHAPTER 0 – INTRODUCTION	4
0-1    SCOPE	4
0-2    DEFINITIONS AND ABBREVIATIONS	4
0-3    DISTRIBUTION	4
0-4    COMPATIBILITY	4
0-5    GENERAL DESCRIPTION	4
CHAPTER 4 – AIRWORTHINESS LIMITATIONS	6
CHAPTER 5 – INSPECTION REQUIREMENTS	7
5-1    INSPECTION SCHEDULE	7
5-2    DAMAGE LIMITS / REPAIR INSTRUCTIONS	7
5-3    PROTECTIVE TREATMENT INFORMATION	7
CHAPTER 11 – MARKINGS AND PLACARDS	8
CHAPTER 32 – LANDING GEAR	9
32-1    FORWARD LANDING GEAR FITTINGS INSTALLATION	9
32-2    FORWARD LANDING GEAR FITTINGS REMOVAL	9
32-3    AFT LANDING GEAR BLOCKS INSTALLATION	10
32-4    AFT LANDING GEAR BLOCKS REMOVAL	10
32-5    WEIGHT AND BALANCE	10
32-6    STRUCTURAL FASTENER DATA	10

## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for the Bell 407 embodying the External Attachment Provisions as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

- ICA - Instructions for Continued Airworthiness  
LH - Left Hand  
RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the External Attachment Provisions. Requests for a copy may be made in writing to:

AERO Design Ltd.  
2013 39<sup>th</sup> Avenue N.E.  
Calgary, Alberta  
T2E 6R7  
Fax: 403-250-8333  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

### 0-5 GENERAL DESCRIPTION

External Attachment Provisions are installed to allow the installation of various equipment, such as cargo baskets. On the Bell 407, the forward fittings are replaced, and a block is installed in the aft fittings with the attachment provisions. The new fittings and blocks incorporate a barrel nut for installing equipment.

The External Attachment Provisions are installed on the Bell 407 helicopter in accordance with Installation Drawing 60602. The forward fittings are bolted to the lower fuselage and landing gear with the same fasteners as used for the original fittings, as shown in Figure 1. In the rear, a block is installed in the cavity on the front side of the existing aft fittings, as shown in Figure 2.

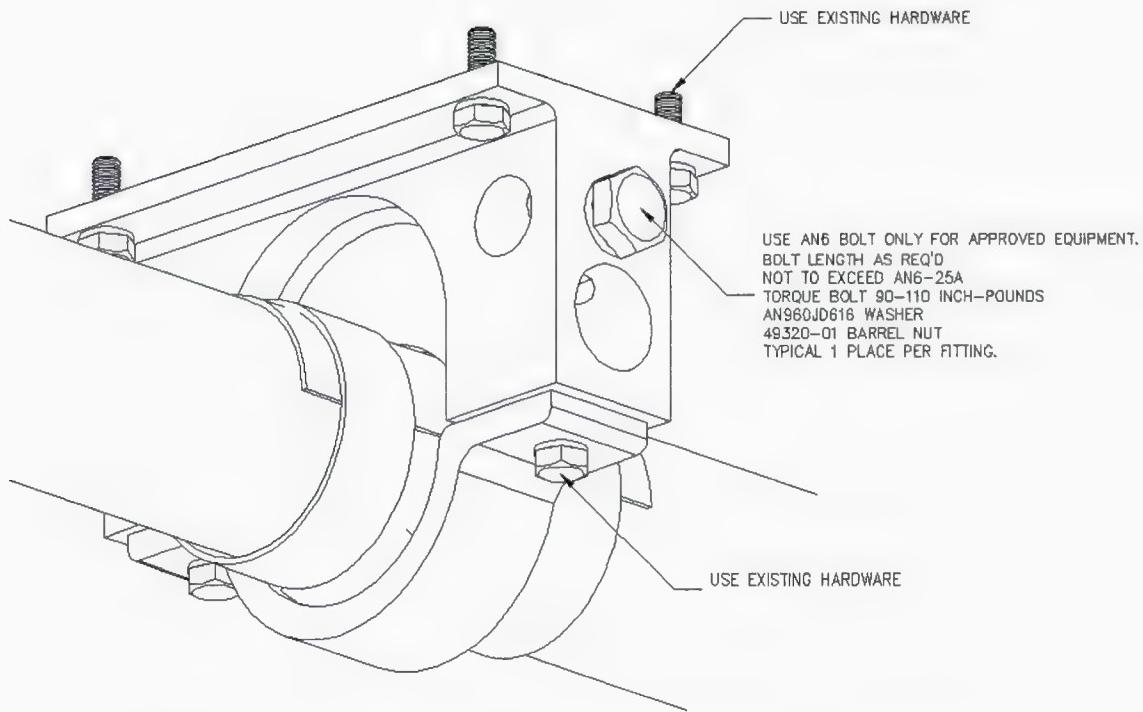


Figure 1 - Installation of Forward External Attachment Provisions

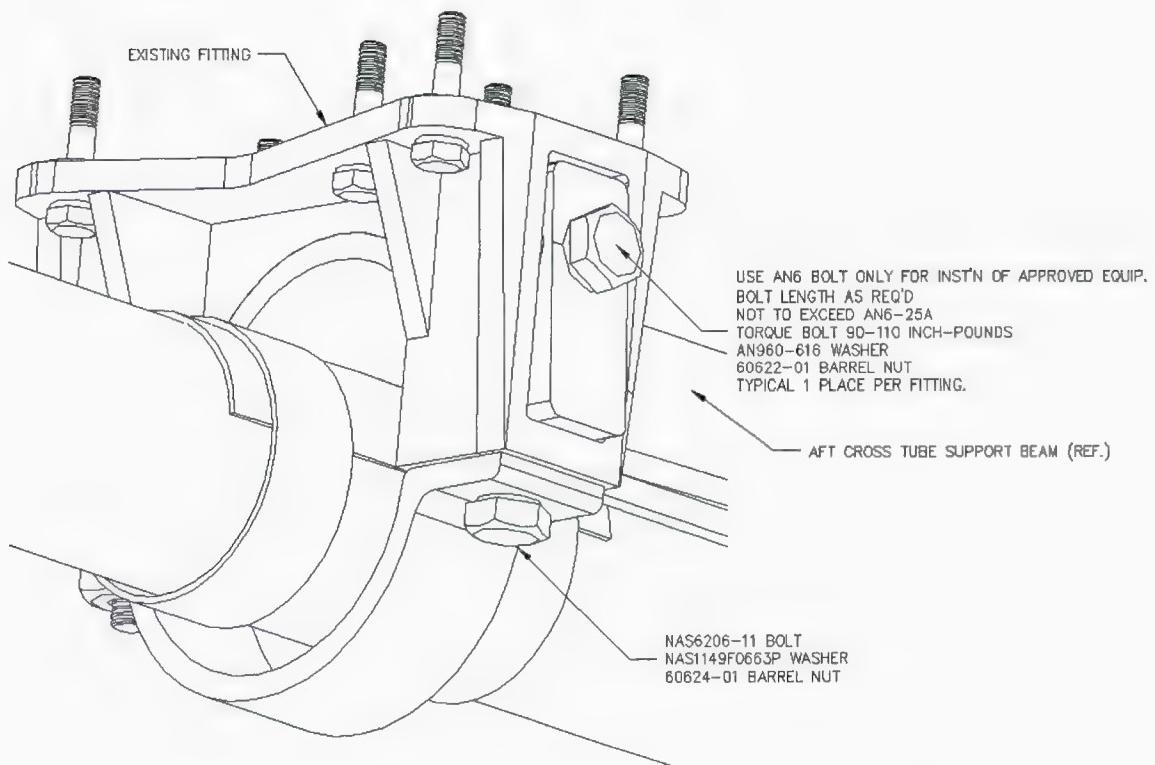


Figure 2 – Installation of Rear External Attachment Provisions

## CHAPTER 4 – AIRWORTHINESS LIMITATIONS

The Airworthiness Limitations section is Transport Canada-approved and specifies maintenance required under Section 571 of the Canadian Aviation Regulations, unless an alternative program has been approved.

No additional airworthiness limitations have been imposed due the installation of the External Attachment Provisions.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the Bell 407 Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of the External Attachment Provisions.

#### *300 Hour or Annual Inspection*

##### 1. Inspection Area: Landing Gear Attachment Fittings

- a) Visually inspect landing gear fittings and blocks in situ for cracks, corrosion or other damage.
- b) Visually inspect hardware attaching fittings and hardware attaching cross-tubes to fitting in situ for security and damage.

#### *Special Inspections*

Following a hard landing inspect the External Attachment Provisions installation in accordance with the 300 hour or annual inspection listed above.

### 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

##### 1. Landing Gear Attachment Fittings

DO NOT REPAIR DAMAGE TO FITTINGS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on any face up to 0.030" deep and 0.125" wide may be dressed out to a smooth contour. Touch up paint as required.
- b) Do not repair elongation of provision bolt slot (AN6 bolt). Slot is nominally 0.391" (25/64") in diameter with 1/4" maximum freedom of motion left and right.
- c) Do not repair elongation of barrel nut hole. Hole is nominally 3/4" in diameter.

### 5-3 PROTECTIVE TREATMENT INFORMATION

The External Attachment Provisions are to be Alodined, primed with epoxy primer, and painted with polyurethane paint.

## CHAPTER 11 – MARKINGS AND PLACARDS

The following markings are used with the External Attachment Provisions Installation in the locations noted:

- a) Located on top of forward fitting: 60621-01
- b) Located on back of block: 60620-01

## CHAPTER 32 – LANDING GEAR

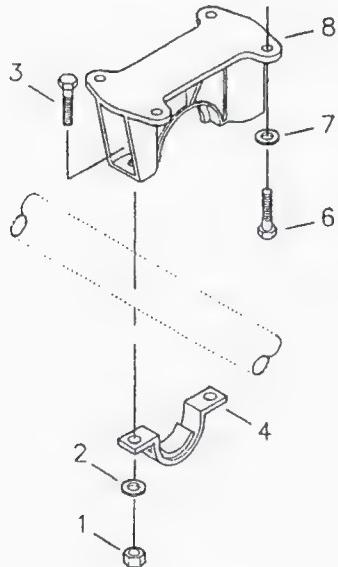
Refer to drawing 60602. Refer to Illustrated Parts Book for alternate part numbers to those that may be listed. Refer to Maintenance Manual for further information regarding installation and removal of landing gear attachments.

Raise helicopter using a jack or hoist rated at 5000 lbs or more when changing fittings. Raise helicopter until landing gear is at least 4" off the ground.

### 32-1 FORWARD LANDING GEAR FITTINGS INSTALLATION

Refer to Figure 4

1. Locate right hand forward Landing Gear Fitting (8) on bottom of helicopter and install with four Bolt (6) and Washer (7). Repeat for left side.
2. Raise front landing gear cross tube into position on the landing gear fittings.
3. Position Strap Assembly (4) under cross tube on landing gear fitting. Install two Bolt (3), Washer (2), and Nut (1).



Item	Part	Bell 407
1	Nut	MS21042L5
2	Washer	NAS1149F0563P
3	Bolt	NAS6205-11
4	Strap Assembly	206-052-105-035
---		
6	Bolt	NAS6604-7
7	Washer	140-007-16A17B4
8	Fitting (Original)	407-030-111-101
8	Fitting (New)	60621-01

Figure 4 – Forward Landing Gear Fitting

### 32-2 FORWARD LANDING GEAR FITTINGS REMOVAL

Refer to Figure 4

1. Remove any equipment installed on the External Attachment Provisions.
2. Remove two Bolt (3), Washer (2), Nut (1) from ends of Strap Assembly (4) and remove Strap Assembly from right hand forward Landing Gear Fitting (8). Repeat for left hand side.
3. Lower front landing gear cross tube to the ground.
4. Remove four Bolt (6) and Washer (7) from right hand forward Landing Gear Fitting (8) and remove fitting. Repeat for left hand side.

### 32-3 AFT LANDING GEAR BLOCKS INSTALLATION

Refer to figure 2.

1. Remove NAS6206-7 Bolt, NAS1149F0663P Washer, and MS21042L6 Nut.
2. Insert 60624-01 Barrel Nut in 60620-01 Block. Locate Block in forward side of right hand aft landing gear fitting.
3. Install NAS6206-11 Bolt, NAS1149F0663P Washer.
4. Repeat for left hand side.

### 32-4 AFT LANDING GEAR BLOCKS REMOVAL

Refer to Figure 2

1. Remove any equipment installed on the External Attachment Provisions.
2. On right hand aft landing gear fitting, remove NAS6206-11 Bolt, and NAS1149F0663P Washer and remove 60620-01 Block.
3. Install NAS6206-7 Bolt, NAS1149F0663P Washer, and MS21042L6 Nut to secure strap.
4. Repeat for left hand side.

### 32-5 WEIGHT AND BALANCE

Part #	Name	Weight (lbs)	Longitudinal		Lateral	
			Arm (in)	Moment (in-lbs)	Arm (in)	Moment (in-lbs)
60621-01	Forward Fitting (Pair)	2.68	73.0	195.6	0	0.0
60620-01	Block (Pair)	0.5	152.7	76.4	0	0.0
	Total	3.18	85.5	272.0	0	0.0

### 32-6 STRUCTURAL FASTENER DATA

Refer to Bell Standard Practices Manual BHT-ALL-SPM for torque values not listed in this ICA.

## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

### APPENDIX A-3 NORMAL CATEGORY ROTORCRAFT – CAR 527

#### BLOCK 1

Name of the applicant for the design change approval:	Aero Design Ltd.
Description of the design change:	Installation of Quick Release Cargo Basket on Bell 407
Certification Basis of design change and revision date:	FAR 27, Amendment 27-30
CAR Standard A527.1(c) Program showing how changes to supplemental ICA made by the applicant or by the manufacturers of products and appliances installed in the aeroplane pursuant to the design change will be distributed:	Section 0-3 of Supplemental ICA (ICA 700.90)
CAR Standard 513.05 (1) (g) (iv): Installation Instructions:	Installation Drawing 70001

#### BLOCK 2

Note: Enter "N/A" when no supplemental ICA are needed.

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.2 (a) Manual(s)</b> (a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.	ICA ref: Bell 407 Maintenance Manual BHT-407-MM	Supplemental ICA ref: Single Manual (ICA700.90)
<b>A527.2 (b) Practical arrangement</b> (b) The format of the manual or manuals must provide for a practical arrangement.	ICA ref: Bell 407 Maintenance Manual	Supplemental ICA ref: Arranged in ATA format
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (a) Rotorcraft maintenance manual or section</b>		
<b>A527.3 (a) (1) (Introduction)</b> (1) Introduction information that includes an explanation of the rotorcraft's features and data to the extent necessary for maintenance or preventive maintenance.	ICA ref: Bell 407 Maintenance Manual, Chapter 1	Supplemental ICA ref: Section 0-1
<b>A527.3 (a) (2) (Description)</b> (2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.	ICA ref: Bell 407 Maintenance Manual, Chapter 1	Supplemental ICA ref: Section 0-5

## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (a) (3) Control &amp; Operation</b> (3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (a) (4) Servicing</b> (4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, lubricants to be used, equipment required for servicing, tow instructions and limitations, mooring, jacking, and levelling information.	ICA ref: Bell 407 Maintenance Manual, Chapter 12	Supplemental ICA ref: N/A
<b>A527.3</b> The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:		
<b>A527.3 (b) Maintenance Instructions.</b>		
<b>A527.3 (b) (1) Scheduling</b> 1) Scheduling information for each part of the rotorcraft and its engines, auxiliary power units, rotors, accessories, instruments, and equipment that provides the recommended periods at which they should be cleaned, inspected, adjusted, tested, and lubricated, and the degree of inspection, the applicable wear tolerances, and work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if the applicant shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the continued airworthiness of the rotorcraft.	ICA ref: Bell 407 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (b) (2) Troubleshooting</b> (2) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.	ICA ref: N/A	Supplemental ICA ref: N/A

## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

Regulatory Standard Reference Column 1	Design Approval Holder (DAH) ICA Reference Column 2	Applicant Means of Compliance Supplemental ICA Requirements Column 3
<b>A527.3 (b) (3) Removal/replacement</b> (3) Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken.	ICA ref: Bell 407 Maintenance Manual, Chapter 32	Supplemental ICA ref: Section 32-1 thru 32-4
<b>A527.3 (b) (4) General</b> (4) Other general procedural instructions including procedures for system testing during ground running, symmetry checks, weighing and determining the center of gravity, lifting and shoring, and storage limitations.	ICA ref: Bell 407 Maintenance Manual, Chapter 7 and 8	Supplemental ICA ref: Section 32-5
<b>A527.3 (c) Access</b> (c) Diagrams of structural access plates and information needed to gain access for inspections when access plates are not provided.	ICA ref: N/A	Supplemental ICA ref: N/A
<b>A527.3 (d) Special inspections</b> (d) Details for the application of special inspection techniques including radiographic and ultrasonic testing where such processes are specified.	ICA ref: Bell 407 Maintenance Manual, Chapter 5	Supplemental ICA ref: Section 5-1
<b>A527.3 (e) Protective treatment</b> (e) Information needed to apply protective treatments to the structure after inspection.	ICA ref: Bell Standard Practices Manual BHT-ALL-SPM, Chapter 3	Supplemental ICA ref: Section 5-3
<b>A527.3 (f) Fasteners, torque values, etc</b> (f) All data relative to structural fasteners such as identification, discard recommendations, and torque values.	ICA ref: Bell Standard Practices Manual BHT-ALL-SPM, Chapter 2	Supplemental ICA ref: Section 32-6
<b>A527.3 (g) Special tools</b> (g) A list of special tools needed.	ICA ref: N/A	Supplemental ICA ref: N/A

### BLOCK 3

Note: The statement in block 5 does not constitute an approval of the Airworthiness Limitations Section. Airworthiness Limitations differ from other maintenance tasks, in that they are mandatory, as a direct condition of the approval of the type design. They are therefore referenced directly in the approval document itself. However, they must also be included in the Supplemental Instructions for Continued Airworthiness.

## MSI 53 – Review of Supplemental Instructions for Continued Airworthiness

### A527.4 AWL - Separate Section 1

The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, structural inspection interval, and related structural inspection procedure approved under 527.571. If the Instructions for Continued Airworthiness consist of multiple documents, the section required by this paragraph must be included in the principal manual. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister."

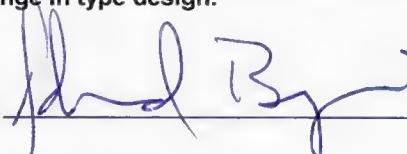
ICA ref: Bell 407 Maintenance Manual,  
Chapter 4

Supplemental ICA ref: Chapter 4

### BLOCK 4 – Applicant Statement of Compliance

The Supplemental ICA referenced above comprises the complete listing of supplemental ICA necessary to show compliance with the regulatory standard that supports this change in type design.

Applicants Signature:



Date:

5 May 2006

Applicants Name: E. Burgoin, P.Eng, DAR 290M

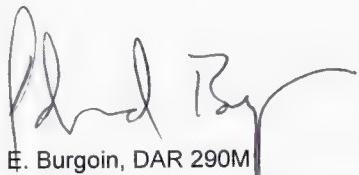
### BLOCK 5 – Minister's Statement of Acceptability

The design change is adequately supported by existing ICA and/or supplemental ICA, as identified above and is acceptable to the Minister.

Reviewer's Name: \_\_\_\_\_ Phone # \_\_\_\_\_ Email: \_\_\_\_\_ Mail Routing Symbol: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_ NAPA Number: \_\_\_\_\_

## FORM AE-100

DEPARTMENT OF TRANSPORT STATEMENT OF COMPLIANCE OF AIRCRAFT OR AIRCRAFT COMPONENTS WITH THE AIRWORTHINESS REQUIREMENTS		AE-100 No.: AE700 Initial Issue Date: 25 May, 2006  Revision: 0 Revision Date:  Approval No.: SH00-48 Delegation No.: 290M Delegate Name: E. Burgoine Classification of Designee: Employer: AERO Design Ltd.									
<b>LIST OF APPROVED REPORTS AND DATA</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">Document Number</th> <th colspan="2" style="text-align: center; padding: 5px;">Document Title</th> <th style="text-align: right; padding: 5px;">Compliance Status</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">DCL700</td> <td style="padding: 5px;">Revision 0</td> <td colspan="2" style="padding: 5px;">Document Control List and all documents referred to therein</td> </tr> </tbody> </table>				Document Number	Document Title		Compliance Status	DCL700	Revision 0	Document Control List and all documents referred to therein	
Document Number	Document Title		Compliance Status								
DCL700	Revision 0	Document Control List and all documents referred to therein									
<b>DATA APPROVED BY TRANSPORT CANADA</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 10%; height: 100px;"></td> <td style="width: 10%; height: 100px;"></td> <td style="width: 80%; height: 100px;"></td> </tr> </tbody> </table>											
<b>CERTIFICATION</b> <p>UNDER THE AUTHORITY VESTED IN ME BY THE DEPARTMENT OF TRANSPORT, I HEREBY CERTIFY THAT THE DATA LISTED ABOVE AND ON THE ATTACHED SHEETS NUMBERED Nii HAVE BEEN EXAMINED IN ACCORDANCE WITH ESTABLISHED PROCEDURES AND FOUND TO COMPLY, TO THE BEST OF MY KNOWLEDGE AND BELIEF WITH THE PERTINENT COMPLIANCE REQUIREMENTS.</p> <p>I THEREFORE      <input type="checkbox"/> RECOMMEND FOR APPROVAL OF THESE DATA  <input checked="" type="checkbox"/> APPROVE THESE DATA</p>  <p>E. Burgoine, DAR 290M</p>											

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
60602 FMS700.91 ICA700.90	External Attachment Provisions Installation Flight Manual Supplement Instructions for Continued Airworthiness	0 0 0
<b>FABRICATION DOCUMENTS</b>		
60620 60621 60622 60624	Block Fabrication Forward Fitting Barrel Nut Fabrication Barrel Nut Fabrication	0 1 0 0
<b>ENGINEERING DOCUMENTS</b>		
ER606.01 ER606.02 ER493.01	Engineering Report Engineering Report Engineering Report	0 0 0
<b>APPROVAL:</b>	ORIGINAL DATE:  10 May, 2006  REVISION DATE:	<b>AERO DESIGN LTD.</b> 2013 – 39 <sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7 Ph. (403) 250-8027 Fax. (403) 250-8333
	SHEET 1 OF 1	<b>External Attachment Provisions Installation</b>
	<b>DCL700</b>	Rev.  <b>0</b>

## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 700.90

---

### EXTERNAL ATTACHMENT PROVISIONS

#### Bell 407

#### Preface

These Instructions for Continued Airworthiness shall be included in the Bell 407 Maintenance Manual when the External Attachment Provisions are installed in accordance with AERO Design Ltd. Document Control List DCL700, Revision 0, or later approved revision.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 0  
Date: 20 April, 2006

---

AERO Design Ltd.  
Engineering Consultants

2013 – 39<sup>th</sup> Avenue N.E., Calgary, Alberta T2E 6R7  
Phone: (403) 250-8027  
Fax: (403) 250-8333  
E-Mail: [aerodesign@telusplanet.net](mailto:aerodesign@telusplanet.net)

---

Notice: This report contains information and data which is proprietary to **AERO** Design Ltd. This report, or any portion thereof, may not be reproduced, copied, duplicated or used without the written consent of **AERO** Design Ltd.

## **RECORD OF REVISIONS**

## **LIST OF EFFECTIVE PAGES**

## List of Revisions

Revision 0 (Original Issue) 20 April, 2006

## List of Effective Pages

<u>Description</u>	<u>Pages</u>	<u>Revision No.</u>
Cover	1	0
Revision Record/List of Effective Pages	2	0
Table of Contents	3	0
00-00-00	4-5	0
04-00-00	6	0
05-00-00	7	0
11-00-00	8	0
32-00-00	9-10	0

**TABLE OF CONTENTS**

RECORD OF REVISIONS	2
LIST OF EFFECTIVE PAGES	2
CHAPTER 0 – INTRODUCTION	4
0-1    SCOPE	4
0-2    DEFINITIONS AND ABBREVIATIONS	4
0-3    DISTRIBUTION	4
0-4    COMPATIBILITY	4
0-5    GENERAL DESCRIPTION	4
CHAPTER 4 – AIRWORTHINESS LIMITATIONS	6
CHAPTER 5 – INSPECTION REQUIREMENTS	7
5-1    INSPECTION SCHEDULE	7
5-2    DAMAGE LIMITS / REPAIR INSTRUCTIONS	7
5-3    PROTECTIVE TREATMENT INFORMATION	7
CHAPTER 11 – MARKINGS AND PLACARDS	8
CHAPTER 32 – LANDING GEAR	9
32-1    FORWARD LANDING GEAR FITTINGS INSTALLATION	9
32-2    FORWARD LANDING GEAR FITTINGS REMOVAL	9
32-3    AFT LANDING GEAR BLOCKS INSTALLATION	10
32-4    AFT LANDING GEAR BLOCKS REMOVAL	10
32-5    WEIGHT AND BALANCE	10
32-6    STRUCTURAL FASTENER DATA	10

## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for the Bell 407 embodying the External Attachment Provisions as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness

LH - Left Hand

RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the External Attachment Provisions. Requests for a copy may be made in writing to:

AERO Design Ltd.  
2013 39<sup>th</sup> Avenue N.E.  
Calgary, Alberta  
T2E 6R7  
Fax: 403-250-8333  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

### 0-5 GENERAL DESCRIPTION

External Attachment Provisions are installed to allow the installation of various equipment, such as cargo baskets. On the Bell 407, the forward fittings are replaced, and a block is installed in the aft fittings with the attachment provisions. The new fittings and blocks incorporate a barrel nut for installing equipment.

The External Attachment Provisions are installed on the Bell 407 helicopter in accordance with Installation Drawing 60602. The forward fittings are bolted to the lower fuselage and landing gear with the same fasteners as used for the original fittings, as shown in Figure 1. In the rear, a block is installed in the cavity on the front side of the existing aft fittings, as shown in Figure 2.

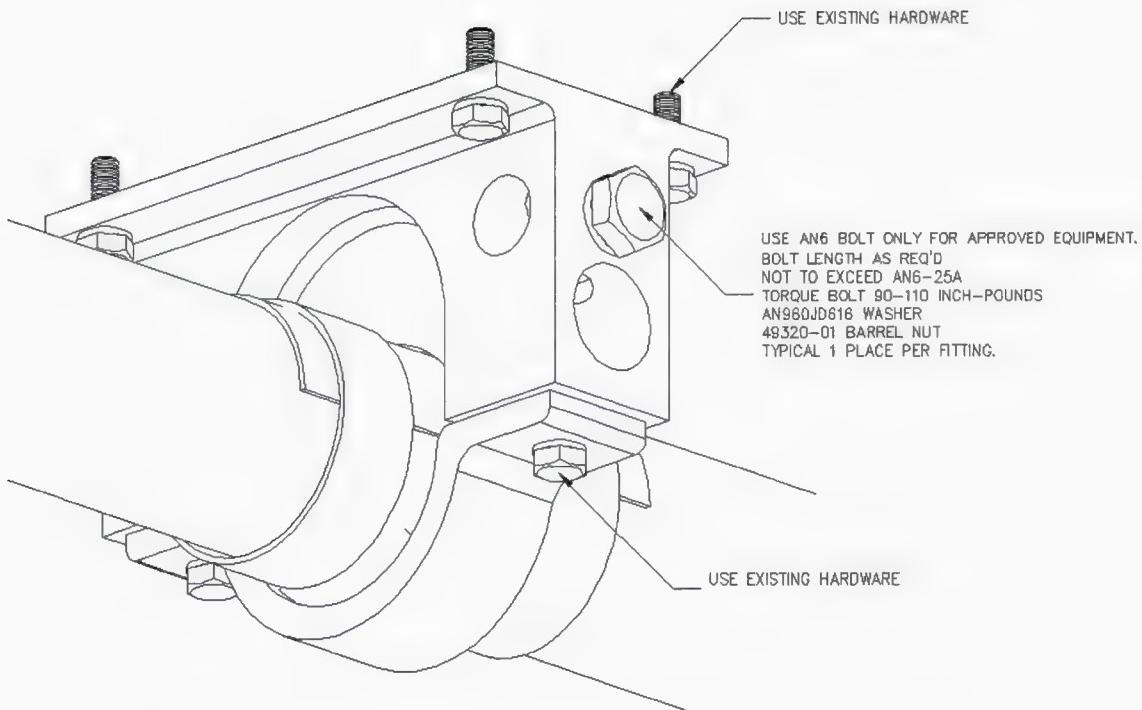


Figure 1 - Installation of Forward External Attachment Provisions

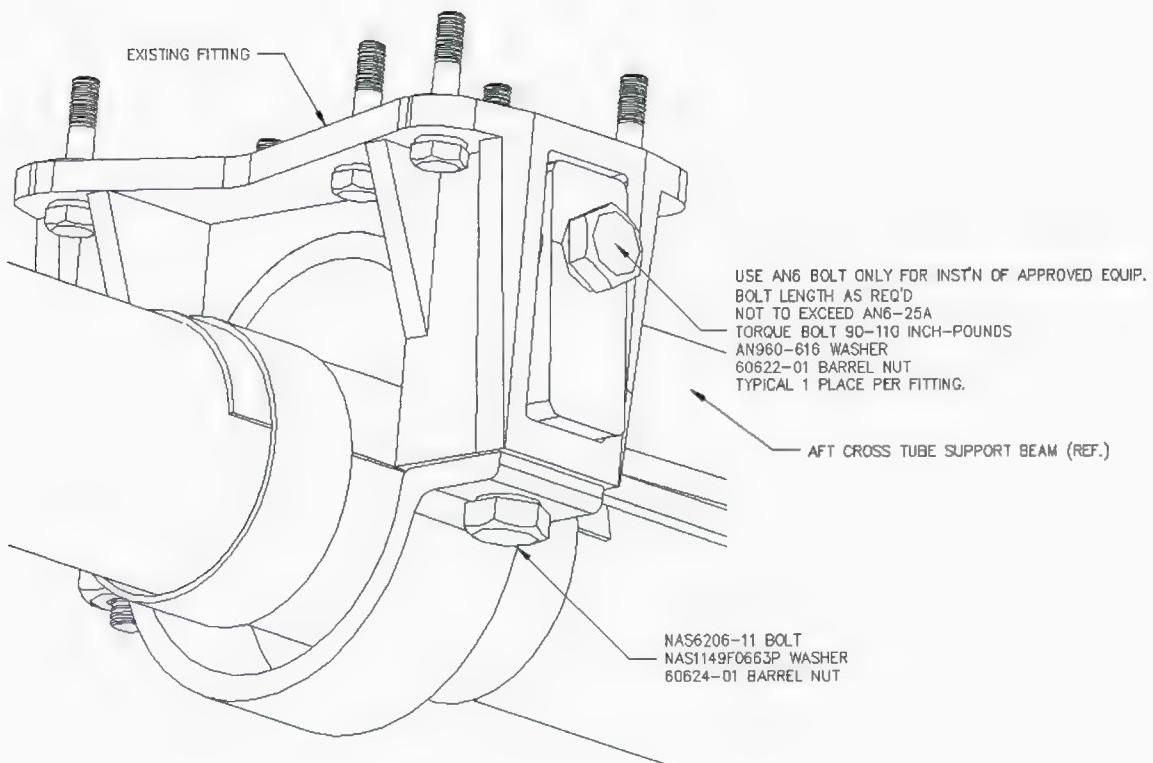


Figure 2 – Installation of Rear External Attachment Provisions

## CHAPTER 4 – AIRWORTHINESS LIMITATIONS

The Airworthiness Limitations section is Transport Canada-approved and specifies maintenance required under Section 571 of the Canadian Aviation Regulations, unless an alternative program has been approved.

No additional airworthiness limitations have been imposed due the installation of the External Attachment Provisions.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the Bell 407 Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of the External Attachment Provisions.

#### *300 Hour or Annual Inspection*

1. Inspection Area: Landing Gear Attachment Fittings
  - a) Visually inspect landing gear fittings and blocks in situ for cracks, corrosion or other damage.
  - b) Visually inspect hardware attaching fittings and hardware attaching cross-tubes to fitting in situ for security and damage.

#### *Special Inspections*

Following a hard landing inspect the External Attachment Provisions installation in accordance with the 300 hour or annual inspection listed above.

### 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

#### 1. Landing Gear Attachment Fittings

DO NOT REPAIR DAMAGE TO FITTINGS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on any face up to 0.030" deep and 0.125" wide may be dressed out to a smooth contour. Touch up paint as required.
- b) Do not repair elongation of provision bolt slot (AN6 bolt). Slot is nominally 0.391" (25/64") in diameter with 1/4" maximum freedom of motion left and right.
- c) Do not repair elongation of barrel nut hole. Hole is nominally 3/4" in diameter.

### 5-3 PROTECTIVE TREATMENT INFORMATION

The External Attachment Provisions are to be Alodined, primed with epoxy primer, and painted with polyurethane paint.

## CHAPTER 11 – MARKINGS AND PLACARDS

The following markings are used with the External Attachment Provisions Installation in the locations noted:

- a) Located on top of forward fitting: 60621-01
- b) Located on back of block: 60620-01

## CHAPTER 32 – LANDING GEAR

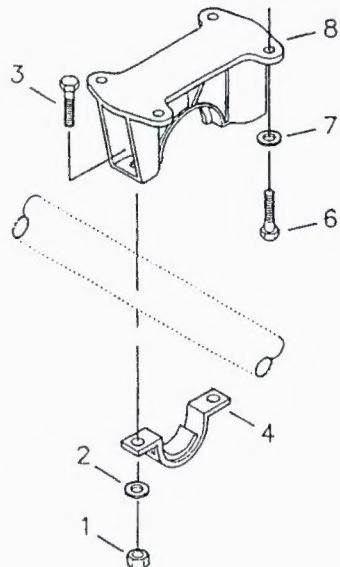
Refer to drawing 60602. Refer to Illustrated Parts Book for alternate part numbers to those that may be listed. Refer to Maintenance Manual for further information regarding installation and removal of landing gear attachments.

Raise helicopter using a jack or hoist rated at 5000 lbs or more when changing fittings. Raise helicopter until landing gear is at least 4" off the ground.

### 32-1 FORWARD LANDING GEAR FITTINGS INSTALLATION

Refer to Figure 4

1. Locate right hand forward Landing Gear Fitting (8) on bottom of helicopter and install with four Bolt (6) and Washer (7). Repeat for left side.
2. Raise front landing gear cross tube into position on the landing gear fittings.
3. Position Strap Assembly (4) under cross tube on landing gear fitting. Install two Bolt (3), Washer (2), and Nut (1).



Item	Part	Bell 407
1	Nut	MS21042L5
2	Washer	NAS1149F0563P
3	Bolt	NAS6205-11
4	Strap Assembly	206-052-105-035
---		
6	Bolt	NAS6604-7
7	Washer	140-007-16A17B4
8	Fitting (Original)	407-030-111-101
8	Fitting (New)	60621-01

Figure 4 – Forward Landing Gear Fitting

### 32-2 FORWARD LANDING GEAR FITTINGS REMOVAL

Refer to Figure 4

1. Remove any equipment installed on the External Attachment Provisions.
2. Remove two Bolt (3), Washer (2), Nut (1) from ends of Strap Assembly (4) and remove Strap Assembly from right hand forward Landing Gear Fitting (8). Repeat for left hand side.
3. Lower front landing gear cross tube to the ground.
4. Remove four Bolt (6) and Washer (7) from right hand forward Landing Gear Fitting (8) and remove fitting. Repeat for left hand side.

### 32-3 AFT LANDING GEAR BLOCKS INSTALLATION

Refer to figure 2.

1. Remove NAS6206-7 Bolt, NAS1149F0663P Washer, and MS21042L6 Nut.
2. Insert 60624-01 Barrel Nut in 60620-01 Block. Locate Block in forward side of right hand aft landing gear fitting.
3. Install NAS6206-11 Bolt, NAS1149F0663P Washer.
4. Repeat for left hand side.

### 32-4 AFT LANDING GEAR BLOCKS REMOVAL

Refer to Figure 2

1. Remove any equipment installed on the External Attachment Provisions.
2. On right hand aft landing gear fitting, remove NAS6206-11 Bolt, and NAS1149F0663P Washer and remove 60620-01 Block.
3. Install NAS6206-7 Bolt, NAS1149F0663P Washer, and MS21042L6 Nut to secure strap.
4. Repeat for left hand side.

### 32-5 WEIGHT AND BALANCE

Part #	Name	Weight (lbs)	Longitudinal		Lateral	
			Arm (in)	Moment (in-lbs)	Arm (in)	Moment (in-lbs)
60621-01	Forward Fitting (Pair)	2.68	73.0	195.6	0	0.0
60620-01	Block (Pair)	0.5	152.7	76.4	0	0.0
	Total	3.18	85.5	272.0	0	0.0

### 32-6 STRUCTURAL FASTENER DATA

Refer to Bell Standard Practices Manual BHT-ALL-SPM for torque values not listed in this ICA.

AERO DESIGN LTD.

FMS700.91

## BELL 407

**ROTORCRAFT FLIGHT MANUAL SUPPLEMENT  
for the  
INSTALLATION of EXTERNAL ATTACHMENT  
PROVISIONS**

Supplemental Type Certificate No. SH00-48

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory.

Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Bell 407 when fitted with External Attachment Provisions. For limitations, procedures and performance not listed in this Flight Manual Supplement, refer to the Approved Flight Manual and other approved Flight Manual Supplements.

Revision 0  
4 May, 2006

TRANSPORT CANADA APPROVED

## I LIMITATIONS

1. Attachment of any equipment to the External Attachment Provisions requires Transport Canada Approval.

## II NORMAL PROCEDURES

1. No change from basic Approved Flight Manual.

## III EMERGENCY PROCEDURES

1. No change from basic Approved Flight Manual.

## IV PERFORMANCE

1. No change from basic Approved Flight Manual.